

Conduct a site analysis.

One of the best ways to conserve water is to design or modify the landscape to reduce its water requirements. An important step in the landscaping process is to conduct a site analysis. Whether your landscape is old or new, a thorough investigation of your property can reveal ways of implementing water saving practices.

- **Existing Features.** Sketch property boundaries, buildings, driveways, and other limitations to your landscape plan. Be sure to note utility lines, meters, drain pipes, outlets, water spigots, and the height of your windows from the ground.
- **Sun and shade.** Knowing the angles of the sun throughout the day will help to plan turf areas, which need sun exposure, and where trees will be needed for shady retreats.
- **Wind.** Awareness of summer and winter wind patterns will help determine where a windbreak is needed, and the best location for a breezy outdoor living area.
- **Topography.** Special treatment of slopes, such as terracing or planting appropriate ground covers may be needed to control runoff and retain moisture in plant beds. Rock outcroppings and low, wet areas may also need special considerations.
- **Vegetation.** Take note of the type, location, and condition of existing trees, shrubs, lawn and groundcovers.
- **Soil.** Soil type, topsoil depth, and pH of the soil affects drainage and indicates what amendments will need to be made to support successful plantings. A free soil analysis can be obtained from the NC Cooperative Extension Service in Guilford County.
- **Use Areas.** Indicate high use areas, desirable views and traffic flow through the yard.



Plan a sensible lawn to meet your needs.

Limit the amount of lawn area to a size that fits the intended use. Grass requires more water and maintenance than other plants. Will you be using the lawn as a play area, for entertaining, or do you have other uses in mind? As an alternative to turf, use mulch and drought-tolerant groundcovers on steep slopes, narrow strips and other areas that are difficult to mow.

Improve your soil.

Good soil is the basis for healthy plants and optimal use of water. Prepare plant beds by deep spading, plowing, or rototilling. Add organic matter such as compost or shredded leaves to increase penetration, distribution, and retention of moisture. Carefully prepared and amended plant beds can reduce watering needs by almost half.

Plan plantings with their needs in mind.

- Group plants with similar sun, moisture, and soil requirements.
- Decide on the trees, shrubs, and groundcovers for your WaterWise landscape based on their natural ability to grow well in your area. Select plants that do well with little or no addition of water. You'll be surprised at the variation of plants that are drought tolerant. Your local extension agent and nursery personnel can help you identify suitable plants for your location.
- Group together and limit the use of water loving plants. Place these plants in shaded, moisture conserving areas or where they will have a high visual impact.
- For color in the landscape, use flowering trees, shrubs, perennials and groundcovers and plants with variegated foliage as an alternative to annuals that require more care and water.

Maintain your WaterWise landscape.

- Control weeds. Weeds use water that would otherwise be available for desirable plants.
- Mulch plant beds to retain soil moisture, limit fluctuations in soil temperature, control competitive weeds, and improve soil conditions as the mulch deteriorates.
- Reduce the number of fertilizer applications. Fertilizer promotes plant growth, increasing the need for water.
- Remove plants that are growing poorly. Don't waste water caring for marginal, undesirable plants.
- Leave shrubs in their natural form to reduce stress to the plants and therefore lower their need for water - avoid heavy pruning.

Water Wisely

When to Water

Many plants demonstrate their need for water by wilting. If they continue to wilt during the evening, water them the following morning. For example, impatiens typically wilt during the heat of the day even though the soil contains adequate moisture. These plants transpire, or lose water from their leaves and stems, faster than their roots can absorb water from the soil.

How Much Water to Apply

When water is needed it should be applied to moisten the soil to a depth of 10-12 inches for shrubs and trees and 6-8 inches for annual flowers, perennials, and groundcovers. Lawns should be watered to a depth of 4-6 inches. As a rule, 1 inch of water wets the soil to a depth of 6 inches.

Most trees and shrubs and many perennials will not need to be watered once they become established. Establishment occurs between two and three years from planting.

To determine how much water is being delivered, turn the water on for a predetermined amount of time. Then use a small shovel to probe into the ground to find out how deep the moisture penetrated the soil. Use this information to decide how long you need to water to achieve the most favorable depth.

Watering Methods

The best ways to irrigate are drip irrigation and sprinklers. Drip irrigation is the best way to water landscape plants. Lawns are best watered with sprinklers. Using a hose with water pressure at full force can do more harm than good, because it washes away the soil and delivers water much faster than the soil can absorb it, causing runoff. If you must water by hand, use a watering can and water each plant once and repeat to give the water time to soak into the soil.

Whether you are using a sprinkler attached to a hose or an automatic sprinkler system, the efficiency of the system depends on how well it is managed. In both cases water deeply, less frequently to encourage deeper roots. This will help plants survive dry periods. Adjust sprinklers to avoid watering sidewalks and streets. Inspect sprinklers periodically to insure that they are working properly.

Drip irrigation provides plants with a constant supply of water by means of plastic tubing located on or below the ground surface. Wetting only the root zone of plants results in water savings and accelerated plant growth. Soaker hoses can also be used to apply water directly to the soil surface.

Water should be applied only as fast as the soil can absorb it. Make sure no water is running off or flowing away.

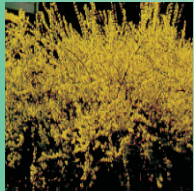
Drought Tolerant Plants for Every Season

Dwarf Wintergreen Barberry (*Berberis julianae* 'Nana')

Evergreen shrubs are always a nice choice for your landscape. This 3 to 4 feet tall shrub can be used as a foundation planting or background material. The yellow flower clusters bloom in early April.



SPRING



Forsythia (*Forsythia x intermedia*)

This shrub is useful as a large accent, dense mass or screen. It's most beautiful when the plant blooms in early March. It transplants well and roots quickly. Forsythia reaches a height of 8 to 10 feet and a width

Purple Coneflower (*Echinacea purpurea*)

This large daisy like perennial with large drooping petals provides a bold and beautiful attraction to your landscape. This flower blooms from July to September and grows to a height of 3 to 5 feet. It grows well in full sun or light shade.



SUMMER

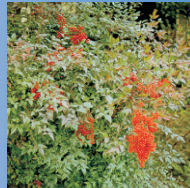


Verbena (*Verbena bonariensis*)

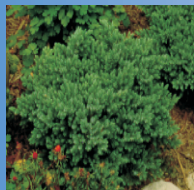
Verbena attracts hummingbirds and butterflies. It has several admirable qualities such as showy, long-lasting blooms from June to early September, and a tendency to form colonies. It reaches 4 to 8 feet in height and likes full sun to partial shade.

Nandina (*Nandina domestica*)

This 4 to 6 feet tall evergreen shrub can be enjoyed year round. In April the white flowers appear in small clusters. In fall and winter the red fruit forms into clusters up to 12 inches long. Nandina grows best in sun or part shade.



WINTER



Blue Star Juniper (*Juniperus squamata*)

This small evergreen shrub adapts well to most soils. It reaches a height and spread of 2 to 4 feet. Blue Star Juniper grows best in full or partial sun. It's mounding growth and blue-green color make it an attractive addition to any landscape.

Showy Sedum (*Sedum spectabile*)

This perennial can be used in borders, rock gardens, or as a single specimen. The flowers are pink and rose turning to bronze as they mature. It blooms from early August to the middle of September. It also attracts butterflies.



FALL



Burning Bush (*Euonymus alatus*)

This shrub grows to a height of 5 to 8 feet. The leaves turn bright red in the fall before dropping off. Burning Bush is attractive standing alone, in a hedge, or in a shrub border. Fall foliage is most brilliant when planted in full sun, however this shrub also tolerates shade.

Planting Techniques for Trees and Shrubs

A properly planted tree or shrub will be more tolerant of adverse conditions and require less water, fertilizer, and pesticides than one planted improperly.

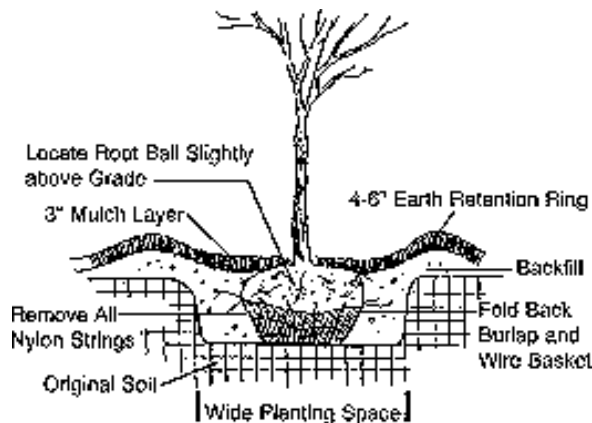
Choosing the size of the plant

Small plants establish faster and are less expensive. If you desire the "instant" landscape look that you get by planting larger plants, more maintenance is required to get them established.

The Planting Hole

The most important consideration in planting trees and shrubs is planting depth. Do not dig deeper than the height of the root ball. Dig planting holes two to three times as wide as the root ball.

For most efficient use of water, construct an earthen dam 4 to 6 inches high around the plant after planting. Water will collect in this saucer and move slowly down into the planting hole area. Runoff will be minimized.



Another option...

Consider non-living landscape features.

Use surfacing materials for patios and walks that allow water penetration into the ground and reduce glare and heat buildup. Examples are wood decks; brick or stone on a sand base for patios, and wood chips, pea gravel, or stepping-stones on a sand base for paths and walks.

For more WaterWise landscape ideas
visit:

www.ncstate-plants.net

or call

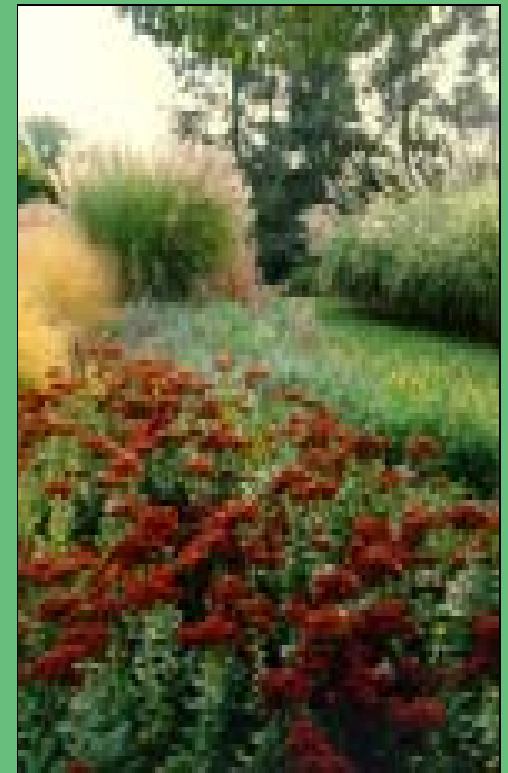
WaterWise Hotline
373-7610

or

NC Cooperative Extension
Guilford County Center
375-5876



WaterWise Landscaping



WaterWise Fall Garden